

REMARKS

Claims 1-27 and 29-32 were pending and claims 1-27 and 29-32 stand rejected. By virtue of this response, claims 1, 6, 11, 13, 19, 24, 27, and 30 have been amended, claims 5, 12, 23, and 29 have been cancelled, and no claims have been added. Accordingly, claims 1-4, 6-11, 13-22, 24-27, and 30-34 are currently under consideration. Claims 1, 11, 19, and 27 have been amended to add clarity to the features recited therein and are supported, for example, in paragraphs [0021], [0043], and [0044] of the present application. Accordingly, no new matter has been added. Further, amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented.

Claim Rejections under 35 USC §102

Claims 1, 2, 4-6, 9-14, 17-20, 22-24, 27, 29, 30, and 33 stand rejected under 35 U.S.C. 102(b) as being anticipated by Wilson (U.S. Patent no. 6,213,705).

Applicants have amended claim 1 herein to further clarify certain features. In particular, claim 1 has been amended to now recite the controller and sensor are configured to detect light and determine “the presence of the storage device based on frequency components of at least a portion of a signal associated with a linear scan by the sensor exceeding a threshold, wherein the frequency components vary with a distance of the sensor from a reflecting surface.” (Emphasis added). These features, in particular the emphasized features, are clearly not disclosed by Wilson. For example, Wilson fails to disclose or suggest determining a presence of a storage device based on “frequency components of at least a portion of a signal” from the sensor, or that the “frequency components vary with distance of the sensor from a reflecting surface.” For example, as described in further detail below, Wilson discloses merely detecting “magnitude” or “intensity” of detected light and not “frequency components,” much less “frequency components” of a signal which vary with distance of the sensor from a reflecting surface.

Initially, Applicants note that the Examiner states in the Advisory Action that “given its broadest reasonable interpretation, the teachings of Wilson meets the claimed limitations.” The

Examiner's analysis appears to be confusing the concept of giving a claim term its broadest interpretation during prosecution, see, e.g., MPEP § 2111, and is inappropriately giving a reference its broadest interpretation to assert undisclosed features of Wilson. See, e.g., MPEP §§ 2112, 2131 and 2131.01. In particular, Wilson is silent as to measuring "frequency components" of a signal generated from a sensor, and as Applicants have pointed out, appears to be only measuring the intensity of light. Accordingly, the burden is on the Examiner to illustrate that this feature is either "expressly or inherently described" by the reference. MPEP § 2131.

The Examiner has failed to show that Wilson expressly describes these features of claim 1, for at least the reasons previously argued by Applicant (and as evident by the Examiner's reliance on Wikipedia references, which Applicants submit is inappropriate and misguided). Thus, the Examiner appears to be relying on inherency to support the rejection, i.e., that the system of Wilson inherently discloses measuring "frequency components," of a signal generated by a sensor. Such analysis, however, requires the Examiner show that the feature is necessarily disclosed by Wilson. MPEP § 2112 (e.g., the rationale or evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities." *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999)). The Examiner has provided no evidence whatsoever that the recited claim features are necessarily disclosed by Wilson, and has at best suggested that it would be possible that Wilson includes or encompasses such features.¹ Such analysis is clearly insufficient to maintain the rejection. MPEP §§ 2112 and 2131. Accordingly, the Examiner has failed to present a *prima facie* case of anticipation and the rejection should be withdrawn.

In any event, the broadest reasonable interpretation must be consistent with the specification and consistent with the interpretation that those skilled in the art would reach. MPEP § 2111. Applicants, submit that Wilson's references to intensity and magnitude would not lead one of skill in the art to conclude Wilson discloses or suggests determining the presence of a storage device

¹ Applicants maintain, however, that Wilson does not disclose or reasonably suggest measuring frequency components of a signal from the sensor etc., as described herein.

or cartridge based on “frequency components” of a signal from the sensor. Wilson refers to magnitude and intensity therein; however, the word “frequency” is not used once. Accordingly, even if assuming for the sake of argument that “magnitude” can be related in some way to “frequency”, Wilson does not fairly or reasonably disclose relying on “frequency components” of a signal from a sensor as recited in the present claims to determine the presence of a storage device.

For example, Wilson clearly describes that a “labeled tape cartridge reflects an optical signal having a high magnitude level ... because labels are typically shiny and white. An unlabeled tape cartridge reflects an optical signal having a low magnitude level ... because unlabeled tape cartridge are typically black.” (Wilson: col. 5, line 61 to col. 6, line 2). Thus, the magnitude or intensity of detected light varies based on the characteristics of the reflecting surface. This does not suggest a “frequency component” based presence determination as recited by claim 1, which recites that a cartridge determination is based on “frequency components” of a signal from the sensor, wherein the frequency components vary with distance of the sensor from a reflecting surface.

As clearly described in the present application, for example, in paragraphs [0021], [0034], [0043], and [0044], a signal associated with a linear scan (e.g., by a linear scanner or portion of an area scanner) when a cartridge is present includes “relatively sharp, high frequency component peaks across the face of the cartridge 414 as indicated by bracket 420,” (see Fig. 5B). This is compared to the “smoothness, or relatively low frequency components in the middle section of the graph indicated by bracket 430,” (see Fig. 5C) associated with the absence of a cartridge. Thus, the presence or absence of a storage device is determined from frequency components (e.g., relative amplitude or frequency peaks, smoothness, etc.) of a signal associated with a linear scan by the sensor and not a magnitude or intensity of the detected light.

As previously described, Wilson discloses determining the presence of storage device based on an intensity of the signal (e.g., “strong” or “weak”). This disclosure does not suggest determining the presence of a storage device based on “frequency components” of a signal from the sensor. In particular, Wilson clearly describes (including the portions of Wilson cited by the Examiner) that proximity sensor 48 senses “weak” optical signals “having a magnitude below a

given magnitude threshold” for an empty slot and proximity sensor 48 detects “strong” optical signals “having a magnitude above the given magnitude threshold” if a cartridge is present. (Wilson: col. 5, lines 33-48). Further, Wilson describes that a “labeled tape cartridge reflects an optical signal having a high magnitude level ... because labels are typically shiny and white. An unlabeled tape cartridge reflects an optical signal having a low magnitude level ... because unlabeled tape cartridge are typically black.” (Wilson: col. 5, line 61 to col. 6, line 2). Accordingly, the determination is based on whether the optical signals reflected by the tape cartridge or empty slot are above or below a given threshold “magnitude” or “intensity.” (See also, Wilson: col. 6, lines 31-52), which varies upon the amount of light reflected back, not necessarily the distance, which influences the “frequency components” of a signal from the sensor as presently described. In this light, there is no disclosure or suggestion in Wilson that the determination is based on “frequency” or “frequency components” of a signal from the sensor as recited by claim 1.

In practice, for example, the system of Wilson could make an incorrect presence determination in an example where the slot reflects more light than expected, e.g., if a label is present in the back of the slot resulting in a similar amount of light reflected when a cartridge (unlabeled or labeled) is present. (see, e.g., Wilson: col. 5, lines 61 to col. 6, line 2). However, if “frequency components” are used as presently recited, which “vary with distance of the sensor from a reflecting surface,” an exemplary system may nevertheless determine the absence of the cartridge because the features at the back of the slot will be out of focus, thereby resulting in relatively low frequency components of the linear scan (irrespective of the “magnitude” or “intensity” of light detected).

Accordingly, for at least the above reasons, Wilson does not disclose expressly or inherently each and every feature of claim 1 and the rejection should be withdrawn. Further, claims depending therefrom should be allowed for at least similar reasons.

Further, claims 11, 19, and 27 have been amended with features similar to claim 1 and are allowable over Wilson for at least similar reasons as claim 1. As discussed with respect to claim 1, for example, Wilson clearly fails to disclose or reasonably suggest determining the

presence/absence of a storage device based on “frequency components” of a signal from the sensor as recited. Therefore, Wilson does not disclose or reasonable suggest the features of claims 1, 11, 19, and 27 (or claims that depend there from), and the rejection must be withdrawn.

Claim Rejections under 35 USC §103

A. Claims 3, 21, and 34 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson in view of Lignoul (U.S. Patent No. 6,374,145).

Claims 3, 21, and 34 depend from independent claims 1, 19, and 27 and are allowable over Wilson for at least similar reasons as claims 1, 19, and 27. The addition of Lignoul does not cure the deficiencies of Wilson nor is Lignoul alleged to in the Office Action. Accordingly, Applicants request that the rejection be withdrawn.

B. Claims 7, 8, 15, 16, 25, 26, 31, and 32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson.

Claims 7, 8, 15, 16, 25, 26, 31, and 32 depend from independent claims 1, 19, and 27 and are allowable over Wilson for at least similar reasons as claims 1, 19, and 27. Accordingly, Applicants request that the rejection be withdrawn.

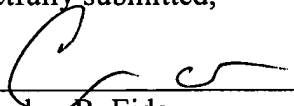
CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 249212021400. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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